



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,886	03/04/2002	Kimiyo Banno	0171-0828P	1884
2292	7590	03/26/2004	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			YUAN, DAH WEI D	
			ART UNIT	PAPER NUMBER

1745

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

51

Office Action Summary

Application No.

10/086,886

Applicant(s)

BANNO ET AL.

Examiner

Dah-Wei D. Yuan

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7 is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

**PREGEL COMPOSITIONS FOR POLYMER GEL ELECTROLYTES, METHOD OF
DEHYDRATING PREGEL COMPOSITIONS, SECONDARY CELL, AND
ELECTRICAL DOUBLE-LAYER CAPACITOR**

Examiner: Yuan

S.N. 10/086,886

Art Unit: 1745

October 21, 2003

Detailed Action

1. The Applicant's amendment filed on January 28, 2004 was received. Claim 1 was amended. Claims 10-11 were added.

2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action issued on October 28, 2003.

Specification

3. The amendment filed January 28, 2004 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The recitation "...wherein the compound having a reactive double bond is a polyoxyalkylene component-bearing unsaturated compound in which a urethane group does not exist" in claim 10.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 10 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The recitation "...wherein the compound having a reactive double bond is a polyoxyalkylene component-bearing unsaturated compound in which a urethane group does not exist" is not supported in the instant specification. If applicant believes said recitation is fully defined, it is requested that applicant indicates column and line, and/or figure with number, in the disclosure.

Claim Rejections - 35 USC § 102

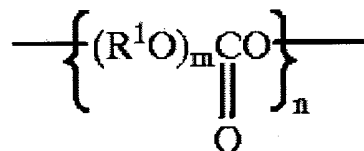
6. Claims 1-6,8,9 are rejected under 35 U.S.C. 102(e) as being anticipated by Takeuchi et al. (US 6,190,805).

With respect to claims 1,2, Takeuchi et al. teach a photopolymerizable electrolyte composition comprising an electrolyte salt and a non-aqueous solvent. Specific examples of the polymer compound include a polymer of polymerizable compound which contains a poly- or oligo-carbonate group represented by the general formula (1) and a polymerizable functional group represented by the general formula (2) and/or formula (3). In one embodiment, Takeuchi et al. teach a solid polymer electrolyte film comprising said polymer compound, ethylene carbonate, ethyl methyl carbonate, LiPF₆ and 2,4,6-trimethylbenzoyl-diphenylphosphine oxide, wherein the total moisture content of the resultant electrolyte is 30 ppm. Therefore, it is

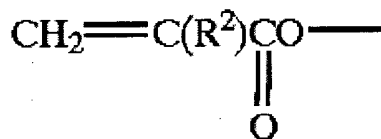
Art Unit: 1745

concluded that the moisture content of the polymer compound, i.e., the pregel composition, is inherently less than 100 ppm, given that both Takeuchi et al. and the present application utilize similar polymer compound and processing procedures. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature *is necessarily present in that which is described in the reference*. In re Robertson, 49 USPQ2d 1949 (1999). See Column 15, Line 7 to Column 16, Line 14; Examples 8,12,13,15.

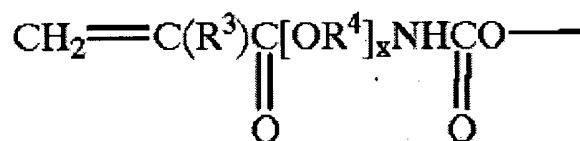
(1)



(2)



(3)



With respect to claims 3,4,11, Takeuchi et al. teach the polymer compound may be a homopolymer, a copolymer of two or more compounds belonging to the same category or a copolymer of at least one of the polymerizable compounds with another polymerizable

compound. These compounds include (meth)acrylic acid alkyl esters, urethane (meth)acrylates and acrylic acid esters and/or urethane (meth)acrylates having an oxyalkylene and/or oxyfluorocarbon chain. See Column 15, Line 7 to Column 16, Line 14; Column 19, Lines 24-53.

With respect to claim 5, Takeuchi et al. teach the polymer compounds comprising one having a hydroxyl group and one having the formula (3) in which the urethane group is replaced with isocyanate group. See Column 16, Lines 9-65.

With respect to claim 6, Takeuchi et al. teach the use of ethyl methyl carbonate as an organic solvent (entrainer). See Example 8. Moreover, it is noted that the claim is a product-by-process claim. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F. 2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

With respect to claim 8, Takeuchi et al. teach the polymer electrolyte can be used in a primary or secondary battery. See Column 5, Lines 26-30.

With respect to claim 9, Takeuchi et al. teach the polymer electrolyte can be used in a double layer capacitor. See Column 5, Lines 31-35.

Allowable Subject Matter

7. Claim 7 is allowed. The following is a statement of reasons for the indication of allowable subject matter: The invention of independent claim 7 recites a method of dehydrating a pregel composition by subjecting the composition to azeotropic distillation in the presence of an entrainer. The moisture content of the pregel composition is lowered to not more than 1,000 ppm. The closest prior art of record, Takeuchi et al., does not teach or suggest the use of azeotropic distillation to reduce the moisture content in the pregel composition for an electrochemical device.

Response to Arguments

8. Applicant's arguments filed on January 28, 2004 have been fully considered but they are not persuasive.

Applicant's principle arguments are

Assuming all the moisture in the electrolyte composition in Example 8 of Takeuchi et al. is derived from only the polymer, it is estimated that the moisture content of the polymer is about 129 ppm.

In response to Applicant's arguments, please consider the following comments.

It is well known in the art that the moisture content in the material depends on the processing condition and the storage environment. It is unlikely that the moisture content of the materials processed in Example 8 can be reduced to zero when mixed in an argon atmosphere at

room temperature. Applicant does not provide any evidence to substantiate the presumption in determining the corresponding moisture content of the polymer compound. It is the position of the examiner, on the contrary, that the moisture content of the pregel composition is inherently below 100 ppm, given the moisture content of the electrolyte film is only of 30 ppm.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

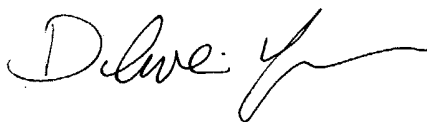
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (571) 272-1295. The examiner can normally be reached on Monday-Friday (8:00-5:00).

Art Unit: 1745

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dah-Wei D. Yuan
March 14, 2004

A handwritten signature in cursive script, appearing to read "D. Yuan", followed by a long horizontal flourish.